CURRICULUM VITAE

KEIICHI HASEGAWA

c/o Fujikin Incorporated,
3-2, Itachibori 2-chome, Nishi-ku,
Osaka-shi, Osaka 550-0012 Japan

EDUCATION

Bachelor Degree in Mechanical Engineering at Nagaoka University of Technology	March 1995 Niigata Japan
Master Degree in Mechanical Engineering at Post Graduate Course, Nagaoka University of Technology	March 1997 Niigata Japan

WORK EXPERIENCE

Engineer in Pipe Welding at Fujikin Incorporated	1997 to 1998 Osaka Japan
Expert in Intellectual Property at Fujikin Incorporated	1999 to Present Osaka Japan

PUBLICATIONS

Keiichi Hasegawa, Shigeru Nagasawa, Yasunori Miyata and Yasushi Fukuzawa: Numerical Value Analysis by General Code for Marangoni Convection in Liquid under Micro Gravity. Japan Micro Gravity Application Society Publication, JASMA Vol. 13 No. 4, pp. 367/368, (1996.10)

PATENTS (Machinery Alone)

Japanese Patent Application No. 2002-375646 for "Fluid Controllers"

Japanese Patent Application No. 2003-401241 for "Pipe Welding Method and Pipe Welding Construction"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	Attorney Docket No.: **SUGI0064**
	)	Confirmation No.: 7328
Tadahiro OHMI et al.	)	
	)	Group Art Unit: 1764
Serial No.: 09/773,605	)	
	)	Examiner: Jennifer A. LEUNG
Filed: February 2, 2001	)	
	)	
For: APPARATUS AND REACTOR FOR GENERATING AND FEEDING HIGH PURITY MOISTURE	)	DRAFT

SECOND DECLARATION UNDER RULE 132

MAIL STOP:

U.S. Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

1. I, Keiichi Hasegawa, state that I am an expert in the field of Mechanical Engineering as supported by a copy of my Curriculum Vitae, which is attached herewith. Specifically, I am the chief at assignee Fujikin Incorporated's Osaka High-Tech Research Institute in Osaka Japan.

2. I am familiar with the above-captioned application, including the drawings. I understand that the Examiner has rejected certain of the amendments to the claims as not supported by the drawings.

3. As an expert in the field of Mechanical Engineering, I have extensive experience reading and reviewing drawings regarding various mechanical devices. While I have reviewed all of the twelve figures of the above-captioned application, I will explicitly

comment on Figures 6 and 12. A copy of Figures 6 and 12 is attached herewith as Exhibit A. Figure 6 illustrates, in cross-section, an embodiment of a reactor for generating moisture. The embodiment shown in Figure 6 includes, among other things, a reactor structural component (2) on an inlet side of the device and a reactor structural component (3) on an outlet side, and a reflector (22) as described on page 9, line 7, to page 10, line 1, and on page 13, lines 13-21, of the specification. The reflector (22) is illustrated as a thick plate, when compared to the reflectors (8) and (11) shown in Figure 5, for example. In fact, the specification describes reflector (22) as "relatively thick" on page 2, lines 12-13.

4. It is my opinion that a person of ordinary skill in the art, after looking at Figure 6, would appreciate that the drawing shows a reflector (22) that has a maximum thickness that exceeds one half the distance separating the material gas supply passage (7) and the moisture gas outlet passage (10).

5. Another way to look at this relationship is to express it mathematically. Attached herewith as Exhibit B is a modified version of Figure 6 labeling as distance "D" the distance between the material gas supply passage (7) and the moisture gas outlet passage (10). In Exhibit B, the maximum thickness of the plate (22) is labeled as "T." The ratio of T/D is $> \frac{1}{2}$ as evident from the drawing.

6. An interesting feature of the ratio T/D is that it is dimensionless. No matter what the dimensions of T and D, whether in centimeters, meters or inches, for example, the same result is gleaned from Figure 6. Hypothetically speaking, suppose that T = t centimeters and D = d centimeters, then the ratio T/D = t/d and this result is independent of scale! To prove this, suppose T = 10t millimeters and that D = 10d millimeters, so that we are, hypothetically speaking, dealing with a different scale. The ratio T/D = (10t

millimeters)/(10d millimeters) = t/d. I believe that a person of ordinary skill in the art would appreciate the dimensionless characteristic of the ratio and would realize that scale is immaterial to the drawings when it comes to determining the relative dimensions of the distance D and the thickness T. I have no reason to believe that the relative dimensions of the components shown in Figures 6 and 12 are inaccurately drawn.

7. I do believe, however, that the drawings are provided with a certain scale. As shown in Figure 12, which illustrates an end view of structural component (3), a particular unit equal to 1 cm is shown. It is my opinion that such a 1 cm unit represents a scale. From Figure 12, I believe a person of ordinary skill in the art would appreciate that structural component (3) has a radius of about 5 to 6 cm. Based on Figure 12, I believe that a person of ordinary skill in the art would realize that the reactor structural component (3) shown in Figure 6 would also have a radius of about 5 to 6 cm. Based on this information, a person of ordinary skill in the art would understand the approximate scale shown in Figure 6.

8. Of course, as I have explained above, for the purposes of determining from Figure 6 that the maximum thickness of reflector (22) exceeds more than half the distance between the material gas supply passage (7) and the moisture gas outlet passage (10), scale is immaterial. All that matters is that the relative dimensions of the components of the reactor be accurately drawn.

Summary

9. It is my opinion, based on the materials and evidence I have considered, that:

a. from Figure 6, a person of ordinary skill in the art would understand that the maximum thickness of the reflector (22) exceeds one half the distance between the material gas supply passage (7) and the moisture gas outlet passage (10);

b. scale is immaterial to determining the relative ratio of the maximum thickness T of the reflector (22) to the distance D between the material gas supply passage (7) and the moisture gas outlet passage (10); and

c. there is a "scale" to Figure 6, which is reasonably inferred from Figure 12, wherein Figure 12 illustrates the radius of the structural component (3) to be about 5-6 cm, because the radius of the same structural component (3) is shown in both Figures 6 and 12.

10. I declare under penalty of perjury that the foregoing is true and correct, that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed by,

Date: July 31, 2006

Keiichi Hasegawa

Keiichi Hasegawa